

NEW SPECIES OF *NOTHOTRICHIA* FLINT (TRICHOPTERA:
HYDROPTILIDAE) FROM BRAZIL AND COSTA RICA

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Abstract.—The genus *Nothotrichia* was thought to be amphitropical in distribution. Two species, *N. cautinensis* Flint and *N. illiesi* Flint, are known from Chile and a third, *N. shasta* Harris and Armitage was described from California in the United States. The addition of two new species, *N. tupi*, from Brazil, and *N. munozi*, from Costa Rica, indicates that the genus occurs sporadically across the Neotropics.

Key Words: Trichoptera, Brazil, Costa Rica, new species, *Nothotrichia*, microcaddisfly, distribution

Flint (1967) erected the genus *Nothotrichia* for the Chilean species *N. illiesi*. A second species from Chile, *N. cautinensis* Flint, was added in 1983 (Flint 1983). The genus was thought to be endemic to the Chilean subregion until a third species, *N. shasta* Harris and Armitage, was discovered in North America from northern California. It was suggested that the genus displayed an amphitropical distribution (Harris and Armitage 1997). The discovery of two additional new species from Brazil and Costa Rica, collected as part of ongoing inventories of the caddisfly faunas of those countries, expands the distribution of the genus substantially. *Nothotrichia* are infrequently collected and specimens within collections are few, thus the genus may occur in intervening areas.

Specimens are deposited in the collections of the Museu de Zoologia da Universidade de São Paulo, Brazil (MZUSP), the University of Minnesota Insect Collection, St. Paul, Minnesota (UMSP), and the National Museum of Natural History, Smithsonian Institution, Washington, D.C. (NMNH).

Nothotrichia munozi Holzenthal and
Harris, new species
(Fig. 1)

This new species shares with its congeners features of the head and thorax typical for the genus (Harris and Armitage 1997). Although quite different in many details of the male genitalia, this species is more closely aligned with *N. cautinensis* Flint and *N. shasta* Harris and Armitage than with *N. illiesi* Flint. With *N. cautinensis*, *N. munozi* shares the feature of long narrow processes from the dorsum of segment IX; and with *N. shasta*, the elongate process from the base of the inferior appendage. The new species is immediately distinguished by the longer inferior appendage, which also has a large dorsal spine at mid-length and a very long inner process from the base.

Male.—Length 2.3 mm. Antenna simple with 25 segments. Preserved in alcohol with no evident pattern to the wings. Abdominal segment VII with short ventromesal process. Segment VIII annular, dorsum slightly wider than venter. Segment IX

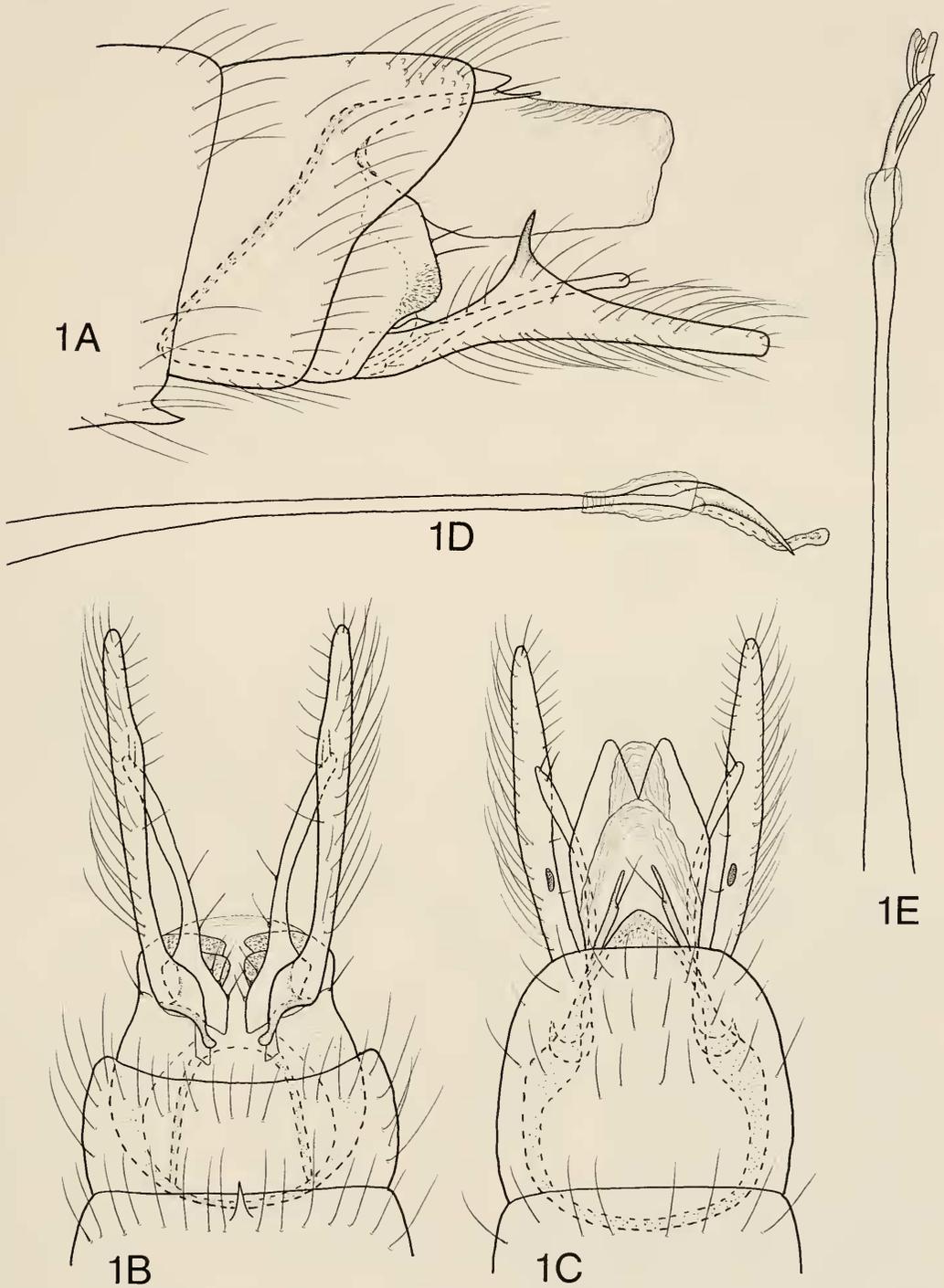


Fig. 1. *Nothotrichia mumozi*, ♂ genitalia. A, Lateral. B, Ventral. C, Dorsal. D, Phallus, lateral. E, Phallus, dorsal.

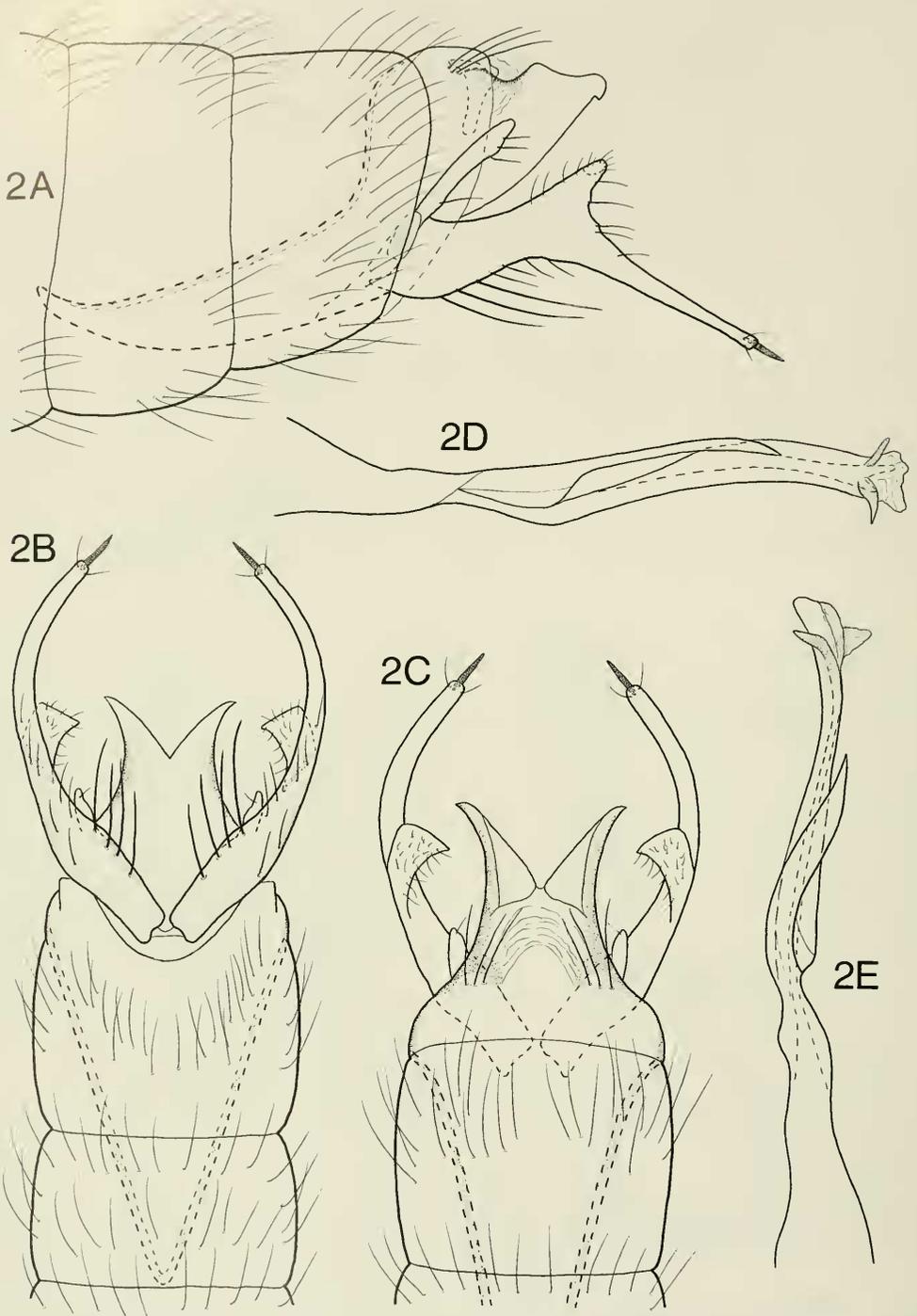


Fig. 2. *Nothotrichia tupi*, ♂ genitalia. A, Lateral. B, Ventral. C, Dorsal. D, Phallus, lateral. E, Phallus, dorsal.

largely enclosed within VIII, in lateral view narrowing dorsally, with elongate thin processes extending posteriorly, posteroventrally with setose lobe; in dorsal and ventral views, rounded anteriorly; ventrally with posterior setose lobe divided mesally. Segment X elongate and rectanguloid in lateral view; dorsally a narrow membranous lobe, incised distally. Inferior appendages thin and elongate in lateral view, heavy sclerotized spinose process at midlength extending dorsad; in ventral view narrow over length, thin processes originating mesally at base and extending beyond midlength, apex tipped with pair of setae. Phallus thin and tubular, apex divided into two processes, one sickle-shaped, the other tubular and bearing the ejaculatory duct.

Female.—Unknown

Type material.—Holotype, ♂. COSTA RICA: Guanacaste: Area de Conservación Guanacaste, Parque Nacional Guanacaste, Estación Maritza, Río Tempisquito, 10.958°N, 85.497°W, el. 550 m, February 1994, Fdo. Muñoz-Q (UMSP).

Etymology.—Named for Fernando Muñoz, who collected the specimen and contributed much to our knowledge of the Costa Rican caddisfly fauna.

***Nothotrichia tupi* Holzenthal and Harris,
new species**
(Fig. 2)

In overall appearance of the genitalic structures, particularly the inferior appendages, this new species is very similar to *N. munozi*. Both have elongate inferior appendages, with a dorsal process arising near midlength, which is spinose in *N. munozi* and rounded in the new species, and both have an elongate process originating at the base of the appendages. The new species lacks the narrow dorsal processes from segment IX, seen in both *N. munozi* and *N. cautinensis*, and as well segment X tapers distally in the new species, similar to that seen in *N. cautinensis* and *N. shasta*, as opposed to the truncate distal shape seen in *N. munozi*.

Male.—Length 2.4–2.7 mm. Antenna simple with 25 segments. Brown in color with diffuse silver hairs on forewing and patches of silver hair on thorax and head. Abdominal segment VII annular, lacking ventromesal process. Segment VIII annular, posterior margin emarginate ventrally. Segment IX largely enclosed within segments VII and VIII, in lateral view narrowing dorsally and tapering anteriorly; in dorsal view triangular, and seemingly fused with X posteriorly, series of setae posterolaterally. Segment X short in lateral view, tapering distally to knob-like apex, anteriorly with elongate sclerite within segment IX; dorsum divided posteriorly with sclerous lateral margins, anteriorly with sclerotized bands laterally at juncture with segment IX. Inferior appendages thin and elongate in lateral view, tipped apically with stout spine, rounded dorsal process near midlength, elongate process originating at base and extending dorsad; in ventral view thin over length and curving inward, basal process appearing to be short, midlength process squarish. Phallus tubular with ribbon-like sheath originating near midlength, apex bearing pair of short lateral processes, one of which is associated with the ejaculatory duct.

Female.—Unknown.

Type material.—Holotype, ♂. BRAZIL: Minas Gerais: Parque Estadual Itacolomi, Rio Belchior, 20°25.041'S, 43°25.633'W, el. 725 m, 2.ii.1998, Holzenthal & Paprocki (MZUSP). Paratypes: Same data as holotype, 1 ♂ (UMSP), 1 ♂ (NMNH).

Etymology.—Named for the Tupi-Guarani, the indigenous people of southeastern Brazil.

ACKNOWLEDGMENTS

We thank David Houghton and Fernando Muñoz, University of Minnesota, for reviewing the manuscript. Appreciation is also extended to Brian J. Armitage, Ohio Biological Survey, and Oliver S. Flint, Jr., Smithsonian Institution, for their comments on the manuscript. This research was supported by NSF grants DEB-9400632 to

RWH for research in Costa Rica, and DEB-9971885 to RWH and R.J. Blahnik for research in Brazil. This support is gratefully acknowledged.

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